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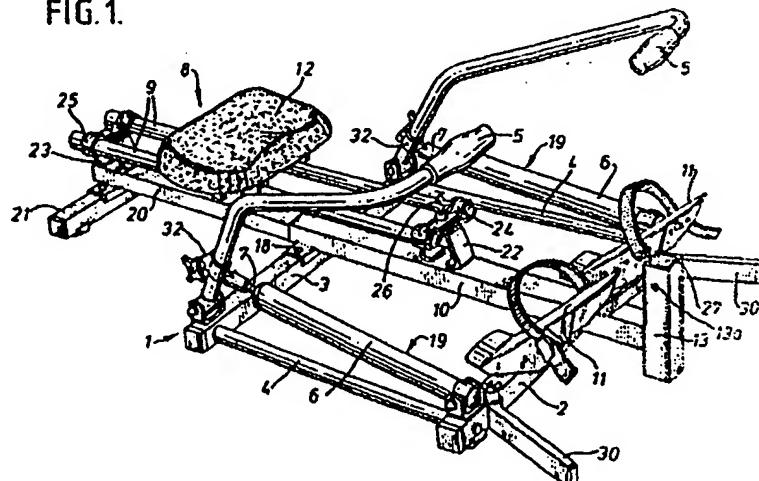
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⑲ Convertible exercising apparatus.

⑳ A physical exercising apparatus having at least one force-resistive, movable handle. Two generally perpendicular user supports enable the apparatus to be used in two different positions so as to increase the range of exercises which can be performed.

FIG.1.



CONVERTIBLE EXERCISING APPARATUS

BACKGROUND OF THE INVENTION

The invention relates to physical exercising apparatus and more particularly, to exercising apparatus which affords a wide range of exercises.

Exercising apparatus of the nature of gymnasium equipment is well known and increasingly is being used privately in domestic homes. Up until now, however, to accommodate the wide variety of different exercises consistent with a balanced program of exercise it is necessary to use different items of exercising apparatus. Especially in the domestic situation the expense and bulk of the various different pieces of apparatus required to give a reasonably comprehensive program of exercises has militated against such home use. The same drawbacks also apply to most of the more versatile (multi-exercise) units designed for the home.

SUMMARY OF THE INVENTION

It is, therefore, an object of the invention to provide a simple and compact exercising apparatus which is adaptable so that a range of different exercises including rowing exercises are possible with one machine.

This and other objects of the invention are accomplished by providing a physical exercising apparatus comprising a frame, at least one movable handle operatively connected to the frame and adapted to be grasped and moved by a user, and resistance means operatively coupled to the handle for providing resistance to movement of the handle. Frame support means connected to the frame supports the frame either

in a generally horizontal position or in a generally upright position, thereby increasing the range of exercises which can be performed with the apparatus. User support means is provided, including first and second generally perpendicular user supports connected to the frame with the first user support generally parallel to the frame, so that the first user support is generally horizontal when the frame is in its generally horizontal position, and the second user support is generally horizontal when the frame is in its generally upright position.

Preferably the first user support comprises a track, a seat slideable along the track, and bracing means for the feet of the user of the apparatus. In this way the apparatus can readily be converted from a rowing machine to fulfill different functions such as push-up, press-up and sit-up exercises.

The second user support is preferably in the form of a bench and preferably ground engaging members are provided on the undersurface of the bench. If desired means may be provided on the bench whereby it can be detachably secured on the sliding seat track.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is diagrammatically illustrated, by way of example, in the accompanying drawings in which:

Figure 1 is a perspective view of physical exercising apparatus adapted for use as a rowing machine;

Figure 2 is a perspective view of the apparatus of Figure 1, and showing the apparatus adapted for exercise with the user supine;

Figure 3 is a perspective view of the apparatus of Figures 1 and 2, and showing the apparatus in a third operative condition;

Figure 4 is a bottom perspective view of a bench member;

Figure 5 is a front elevational view of an adjustable ground engaging member, by means of which the apparatus can be inclined; and

Figures 6a to 6i show nine different exercises which can be performed using the apparatus of Figures 1 to 4.

DETAILED DESCRIPTION

In the drawings physical exercising apparatus according to the invention comprises a generally rectangular framework 1 having a pair of square-section bars 2 and 3 respectively interconnected near their ends by a pair of round-second bars 4. A pair of levers formed at their free or distal ends with handles 5 are pivotally mounted on the bar 3 near to the opposite ends thereof and the levers are connected to the piston rods 7 of a pair of hydraulic dampers 19, the cylinders 6 of which are pivotally mounted on the bar 2 near to the opposite ends thereof. The connection between the levers and the piston rods are by means of manually adjustable clamps 32 and thus the position at which the piston rod engages the lever can be varied to alter the effort required to move the handles.

The unit described above forms the basic assembly of the exercising apparatus and is capable of use in this basic form, for example when mounted on a wall. However as shown in Figure 1, a rowing attachment generally indicated at 8 is detachably secured to the bars 2 and 3 of the rectangular framework 1, e.g. by bolts 18. The rowing attachment comprises a square-sectioned tubular main beam 10 mounted on the bars 2 and 3. The tubular main beam 10 telescopically receives a square-sectioned extension beam 20, the free end of which carries a ground engaging foot 21. A pedestal 22 is secured on the upper surface of the main beam 10 and a corresponding pedestal 23 is secured on the upper surface of the extension beam 20 at its free end. The pedestals 22 and 23 are formed with respective clamps 24 and 25 which carry a parallel pair of rails 9 for a sliding seat 12. The distance by which the extension beam 20 projects from the main beam 10 can be altered from the fully extended position shown in Figure 1 to the fully retracted position shown in Figure 3 by releasing the clamp 24 by means of a knob 26 so that the rails 9 can be slid relative to the clamp 24.

Also mounted on the beam 10 is a crosspiece 28, best seen in Figure 3, which carries a pair of footrests 11. A socket member 13 (Figs. 1, 2) is secured to the end of the main beam 10 remote from the extension beam 20 and is arranged with its socket 27 extending generally at right angles to the main beam 10. Socket member 13 has a pair of aligned holes 13a. The socket member 13 is arranged to support a bench member 17 which comprises a beam 14 of square cross-section having secured thereto, e.g. by screws, a bench 15. A through hole 14a near the end of beam 14 enables bench 17 to be securely pinned or bolted to socket member 13 through holes 13a. Thus, when the end of the beam 14 is mounted in the socket 27 in the member 13, the bench 15 extends generally at right angles to the main beam 10 whereby the apparatus can be up-ended as shown in Figure 3 for use for performing the exercises of Figures 6a to 6d, and supported partly on feet 29 on the underside of the bench and partly on foldable feet 30 mounted on the bar 2 of the frame 1. Clips 16 (Fig. 4) are provided on the underside of the bench 15 so that the bench can be supported on the rails 9 as shown in Figure 2 to enable the apparatus user to perform the exercise shown in Figure 6e.

A ground-engaging member 31 shaped as an inverted T and having a plurality of holes 31a as shown in Figure 5 may be positioned and adjustably pinned in the socket 27 in the member 13 so that the apparatus can be inclined as shown in Figure 6i.

Since the crosspiece 28 carrying the footrests 11 is removably secured by bolts to the main beam 10, the footrests can be removed from the position shown in Figure 1 and secured to the free end of the extension beam 20. If the bench 15 is then placed on the rails 9 as shown in Figure 2, the apparatus can be used to perform a range of exercises in which the handles 5 are pushed instead of being pulled.

It will be appreciated that the exercises shown in Figures 6a to 6i are only examples of those which can be performed with the apparatus of the invention. In Figures 6a to 6d the apparatus is in the

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condition shown in Figure 3 and the exercises illustrated are respectively push-ups from a sitting position; pull-ups from a sitting position; press-ups from a lying position, and a squatting to standing exercise. In Figure 6e the apparatus is in the condition shown in Figure 2 and the exercise shown involves overhead pull-ups from a supine position. In Figures 6f to 6i the apparatus is in the condition shown in Figure 1, that is to say the rowing condition, and the exercises are respectively a sit-up exercise; a rowing exercise; a pushing exercise; and a sit-up exercise with the apparatus inclined.

It is to be understood that the above described apparatus is but one example of the invention. It will be apparent to one of ordinary skill that modifications and changes may be made in the structure of the invention without departing from the true spirit and scope of the invention, which is defined by the appended claims.

CLAIMS

1. A physical exercising apparatus of the kind comprising a frame, at least one movable handle operatively connected to said frame and adapted to be grasped and moved by a user, resistance means operatively coupled to said handle for providing resistance to the movement of said handle, characterised by frame support means (17, 21, 30) connected to said frame (1) for supporting said frame either in a generally horizontal position or in a generally upright position, thereby increasing the range of exercises which can be performed with the apparatus, and user support means (8, 15) including first and second generally mutually perpendicular user supports (12, 15 respectively) connected to said frame (1) with said first user support (12) generally parallel to said frame, so that said first user support is generally horizontal when said frame is in its generally horizontal position, and said second user support (15) is generally horizontal when said frame (1) is in its generally upright position.

2. Physical exercising apparatus according to claim 1 characterised in that said frame (1) is adjustable in length.

3. Physical exercising apparatus according to claim 2 characterised in that said frame (1) includes a longitudinal member comprising two telescoping portions (10, 20).

4. Physical exercising apparatus according to claim 3 characterised in that said frame support means comprises a support foot (21, 31) at the distal end of each telescoping portion, one of said support feet (31) being extensible to vary the angle of inclination of said frame.

5. Physical exercising apparatus according to any preceding claim characterised in that said first

user support means (8) comprises a track (9) parallel to said longitudinal member (10, 20), a seat (12) slideable along said track, and foot bracing means (11) for bracing the user's feet.

6. Physical exercising apparatus according to claim 3 or claim 4 characterised by coupling means (13, 14) for detachably coupling said second user support (15) to said frame (1).

7. Physical exercising apparatus according to any preceding claim characterised in that said frame support means (17) includes ground-engaging means (29) on the underside of said second user support (15), whereby said second user support serves to support said frame (1) when said frame is in its upright position.

8. Physical exercising apparatus according to claim 6 characterised in that said coupling means (13) couples one end of said second user support (15) to one end of said longitudinal member (10, 20).

9. Physical exercising apparatus according to claim 8 characterised in that said coupling means (13, 14) comprises cooperating male and female coupling elements at said ends of said second user support (15) and said longitudinal member (10, 20).

10. Physical exercising apparatus according to claim 9 characterised in that said coupling means (13, 14) comprises a socket (27) at one end of and generally perpendicular to said longitudinal member (10, 20), and a projecting beam (14) at one end of said second user support (15) adapted to be received in said socket.

11. Physical exercising apparatus according to any preceding claim characterised in that said second user support (15) comprises a bench.

12. Physical exercising apparatus according to

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claim 11 when dependent on claim 5 characterised by track coupling means (16) on the underside of said bench (15) for coupling said bench to said track (9).

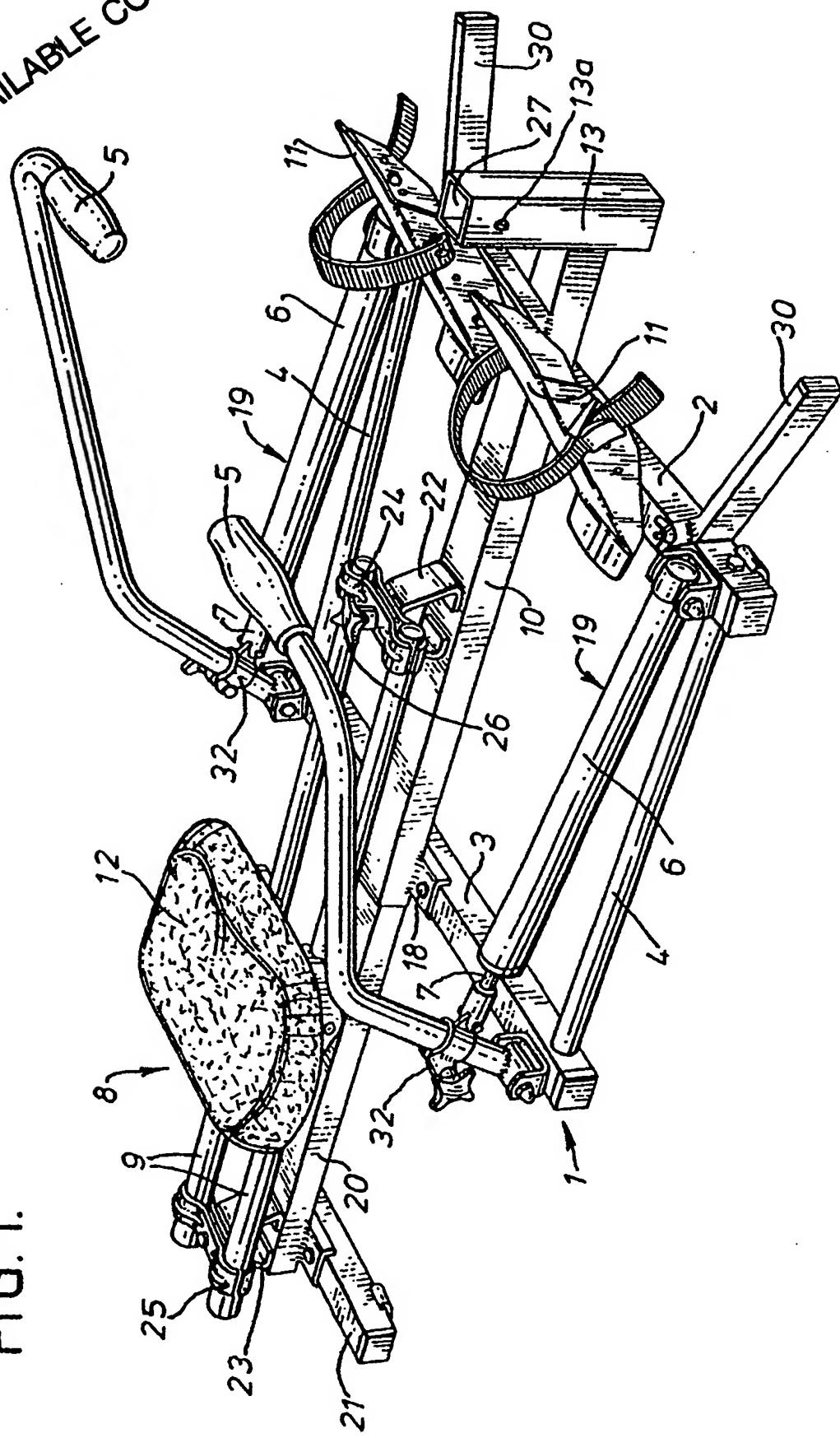
13. Physical exercising apparatus according to any preceding claim, characterised by two levers pivoted to said frame (1) on opposite sides of said longitudinal member (10, 20), each of said levers having a handle (5) at its distal end adapted to be grasped and moved by a user, and by a fluid cylinder (6) interconnecting said frame and an intermediate portion of each lever for providing resistance to the movement of the levers.

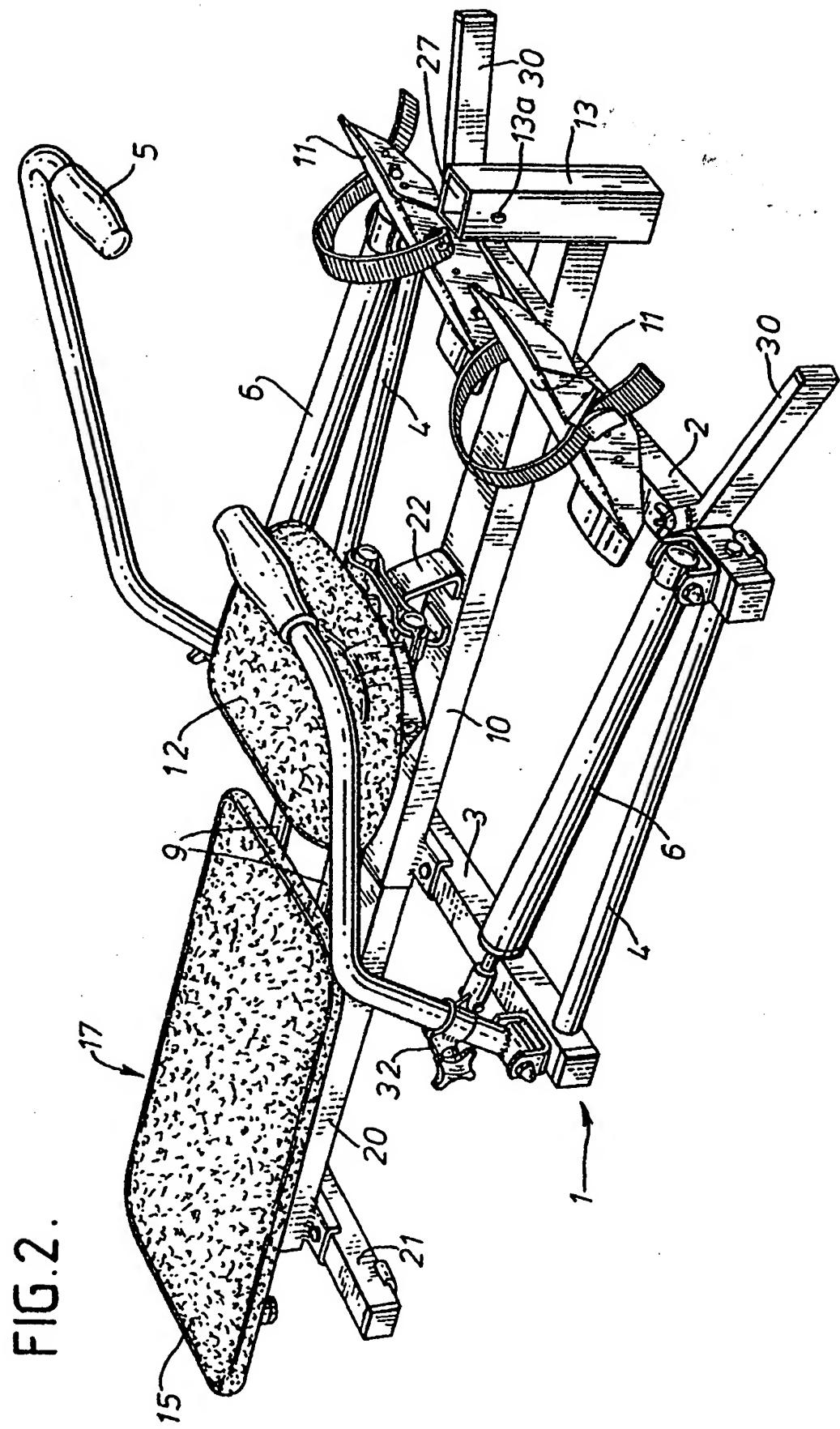
14. Physical exercising apparatus according to claim 13 characterised in that each of said fluid cylinders (6) is adjustably coupled to the intermediate portion of the lever to selectively vary the resistance to movement.

FIG. 1.

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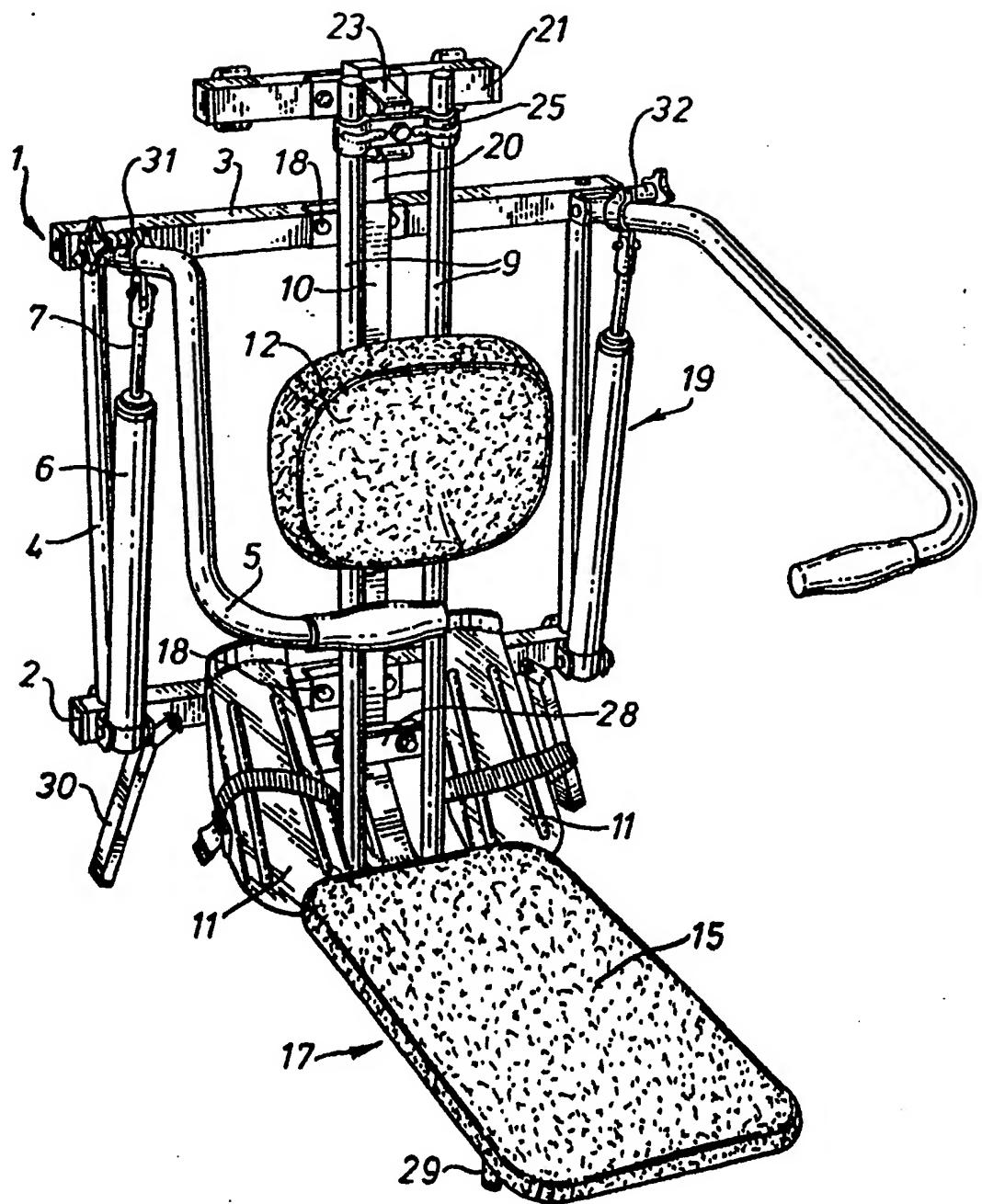
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FIG. 3.



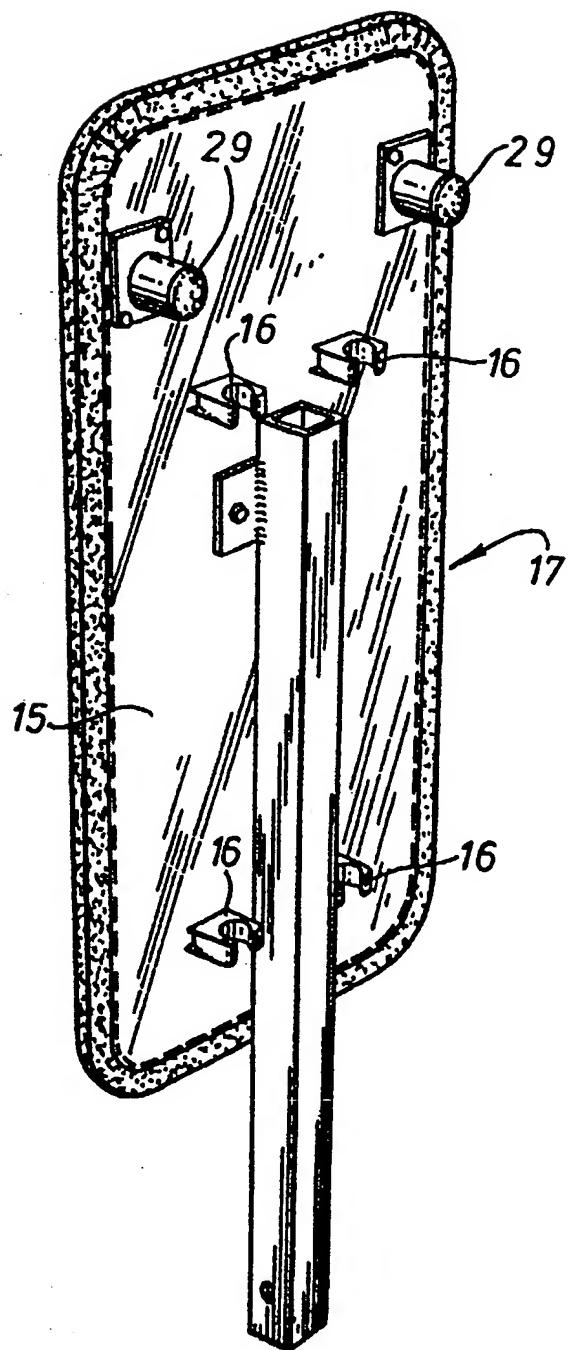
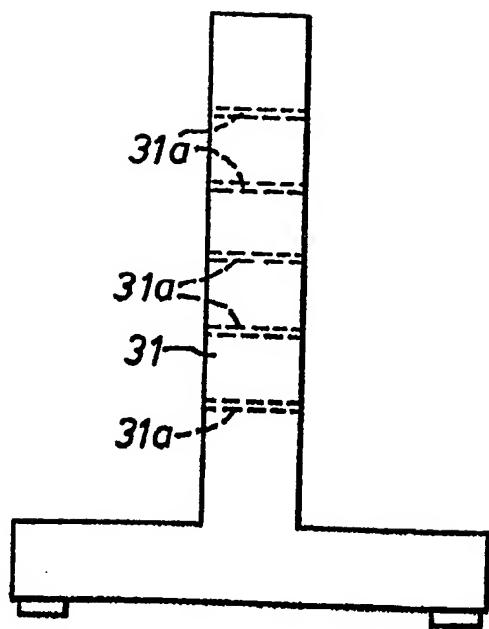


FIG. 4.

FIG. 5.



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FIG. 6a.

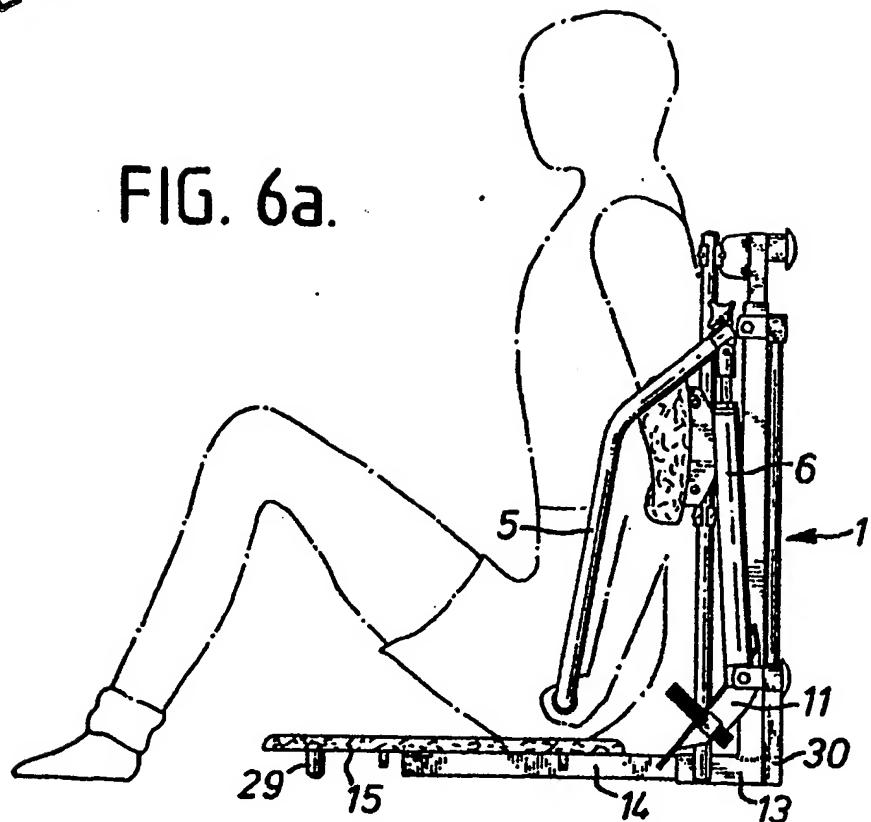


FIG. 6b.

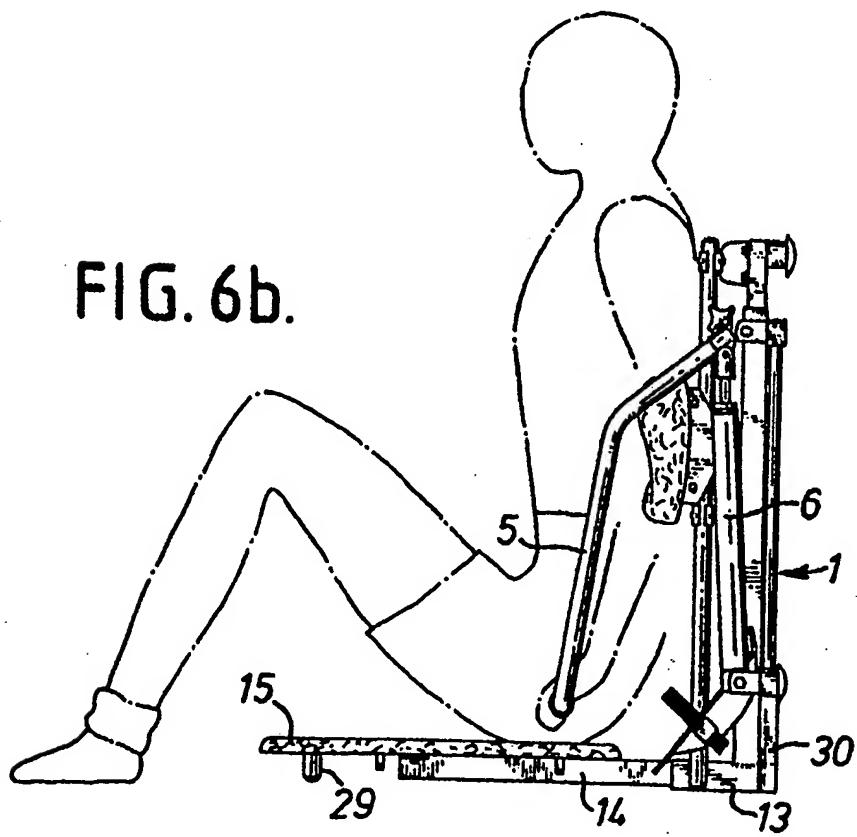


FIG. 6c.

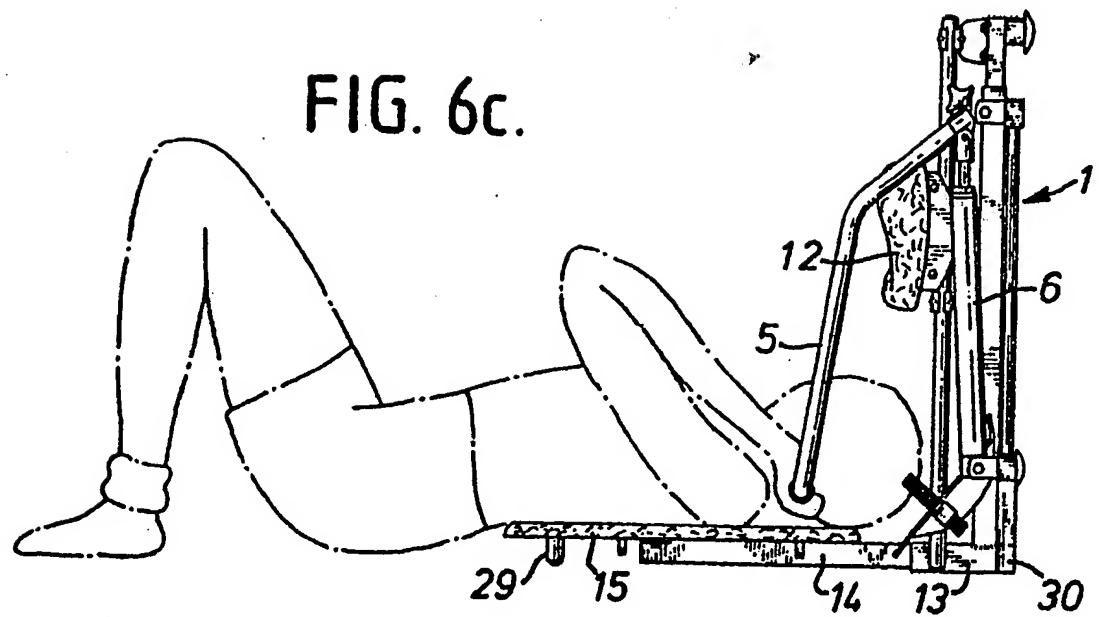
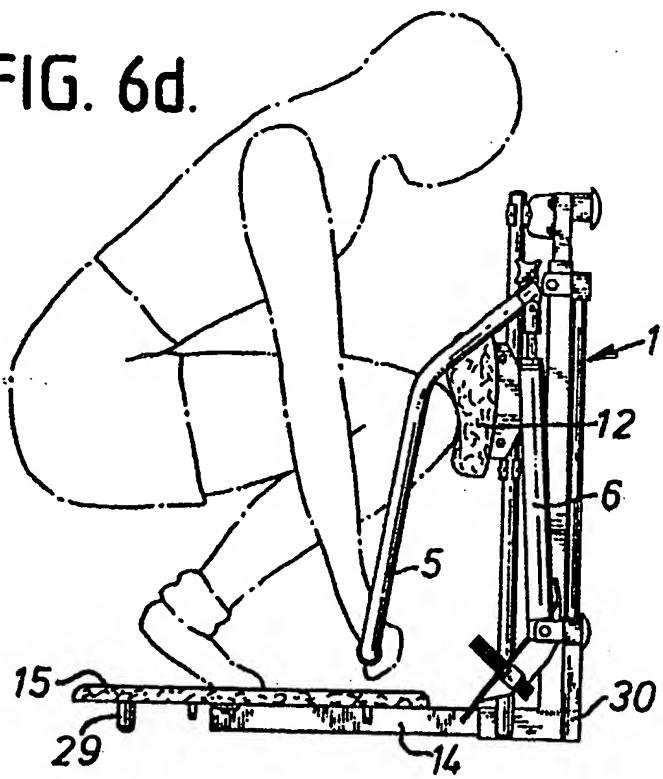


FIG. 6d.



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FIG. 6e.

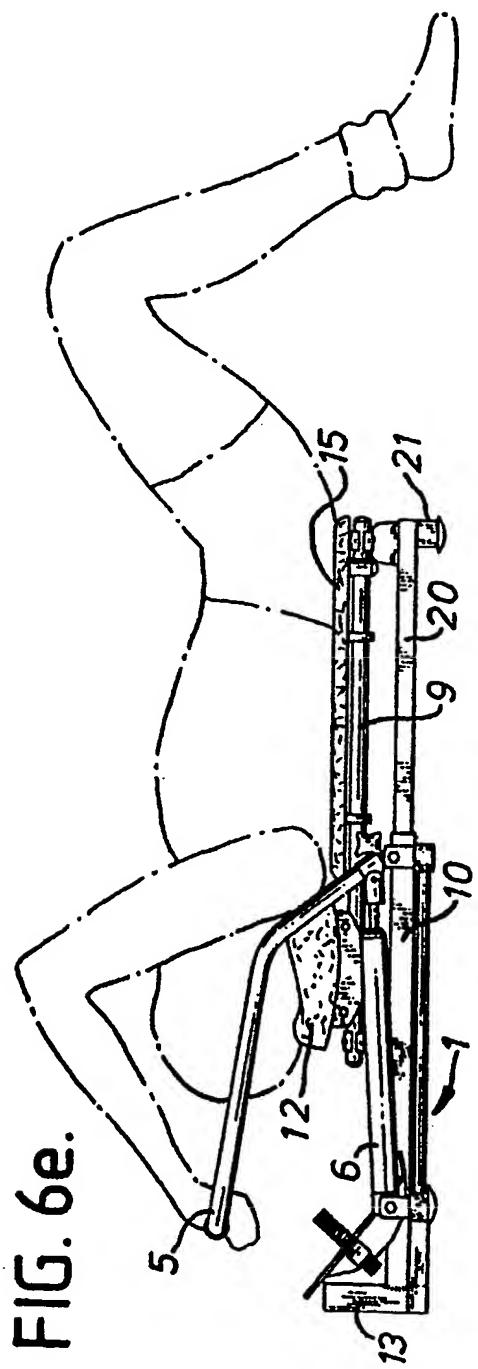


FIG. 6f.

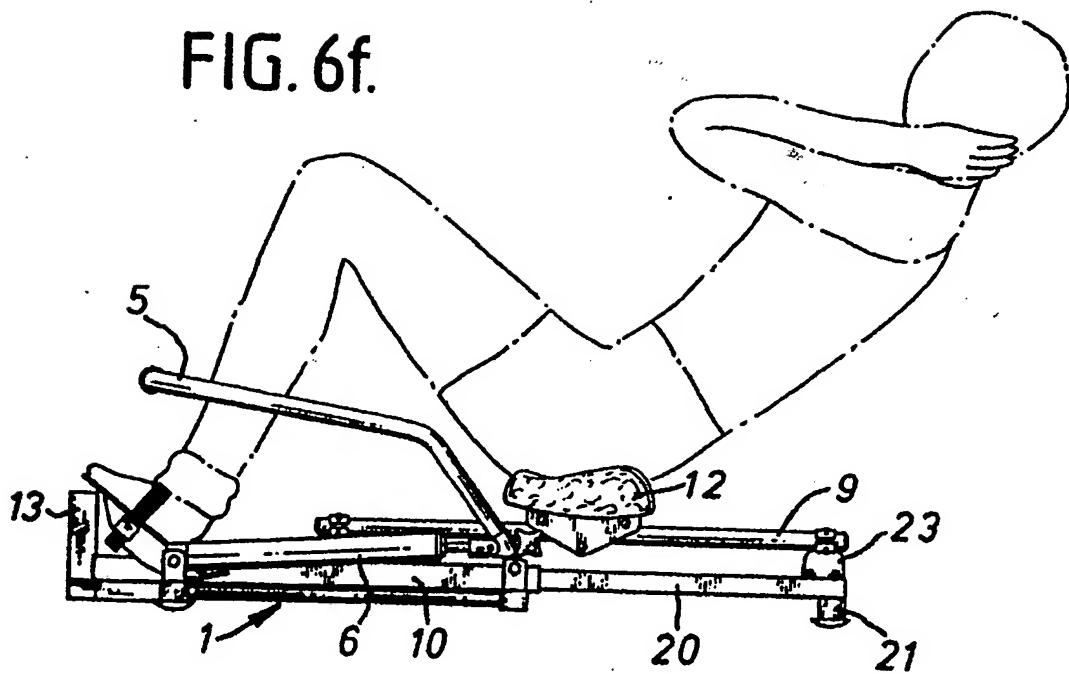
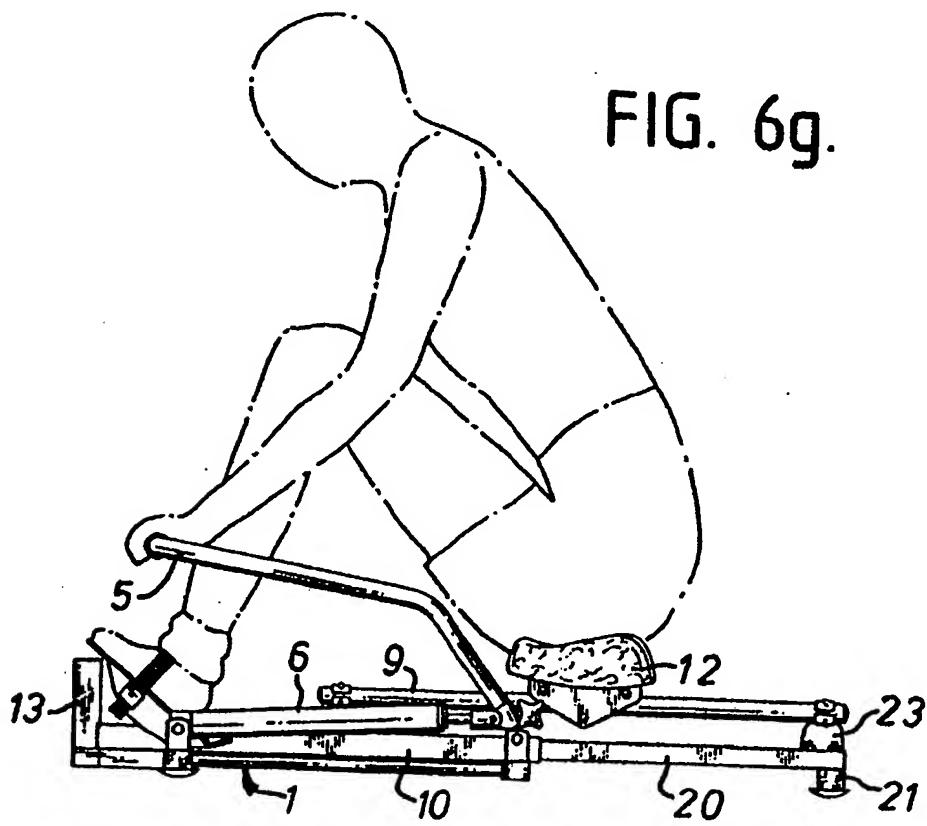


FIG. 6g.



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FIG. 6h.

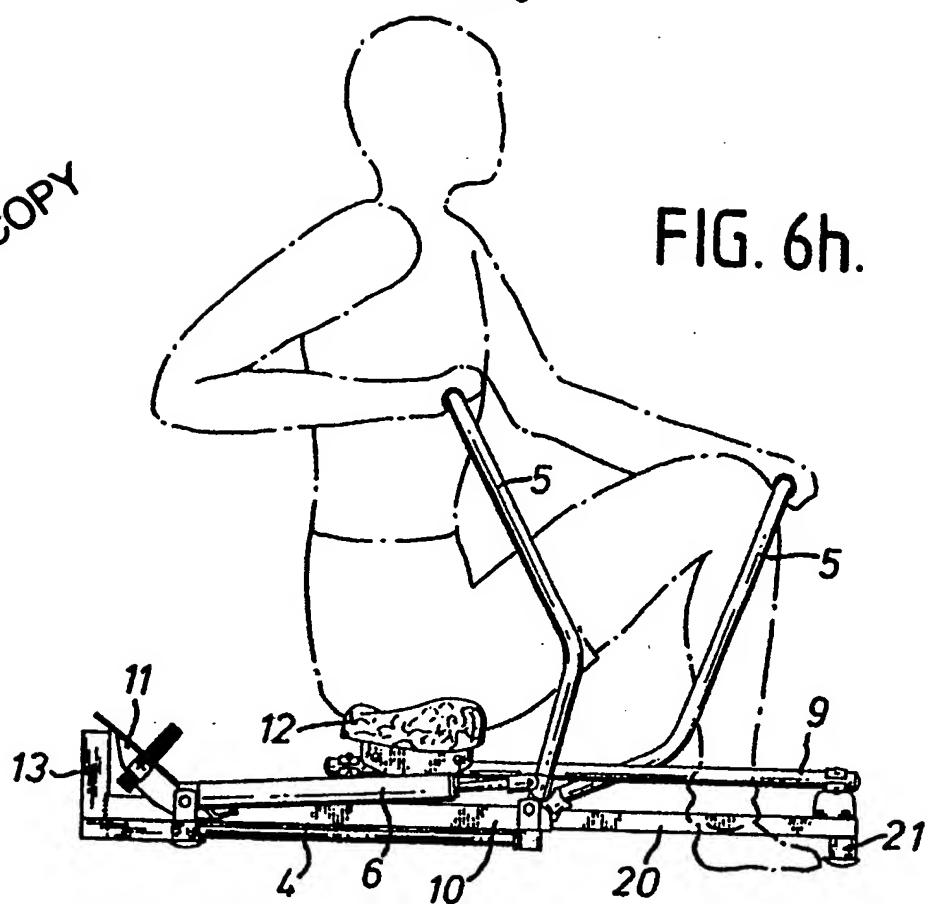


FIG. 6i.

